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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,041

07/03/2006

Atsushi Miyawaki

P28993

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7055

7590

12/11/2009

GREENBLUM & BERNSTEIN, P.L.C.

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RESTON, VA 20191

EXAMINER

BRADLEY, CHRISTINA

ART UNIT

PAPER NUMBER

1654

NOTIFICATION DATE

DELIVERY MODE

12/11/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com

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Office Action Summary

Application No.

10/561,041

Applicant(s)

MIYAWAKI ET AL.

Examiner

CHRISTINA BRADLEY

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1654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-35 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of the species SEQ ID NO: 5 in the response filed 09/17/2009 is acknowledged. Upon further consideration, the election of species requirement mailed 08/18/2009 is vacated and a new requirement for restriction is issued.
2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1, 7, 13-15, 26-30, 32 and 34, drawn to a fluorescent protein from *Montipora* sp. with excitation maximum wavelength of 507 nm and fluorescence maximum wavelength of 517 nm

Group II, claim(s) 2 and 8, drawn to a fluorescent protein derived from *Acropora* sp. with excitation maximum wavelength of 505 nm and fluorescence maximum wavelength of 516 nm.

Group III, claim(s) 16 and 17, drawn to DNA encoding a fluorescent protein derived from *Acropora* sp. with excitation maximum wavelength of 505 nm and fluorescence maximum wavelength of 516 nm.

Group IV, claim(s) 3 and 9, drawn to a fluorescent protein derived from *Acropora* sp. with excitation maximum wavelength of 472 nm and fluorescence maximum wavelength of 496 nm.

Group V, claim(s) 18 and 19, drawn to DNA encoding a fluorescent protein derived from *Acropora* sp. with excitation maximum wavelength of 472 nm and fluorescence maximum wavelength of 496 nm.

Group VI, claim(s) 4, 10, 20 and 21, drawn to a fluorescent protein derived from *Montipora* sp. with excitation maximum wavelength of 557 nm and fluorescence maximum wavelength of 574 nm.

Group VII, claim(s) 5, 11, 22, 23, 31, 33 and 35, drawn to a fluorescent protein derived from *Actinia equina* with absorption maximum wavelength of 592 nm.

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Group VIII, claim(s) 6, 12, 24 and 25, drawn to a fluorescent protein derived from *Lobophytum crassum* with excitation maximum wavelength of 482 nm and fluorescence maximum wavelength of 498 nm.

3. The inventions listed as Groups I-VIII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons. Groups I and VI pertain to fluorescent proteins derived from *Montipora* sp., Groups II-V pertain to fluorescent proteins derived from *Acropora* sp., Group VII pertains to fluorescent proteins derived from *Actinia equina* and Group VIII pertain to fluorescent proteins derived from *Lobophytum crassum*. *Montipora*, *Acropora*, *Actinia* and *Lobophytum* are different genus of organisms which express fluorescent proteins. Fluorescent proteins derived from naturally-occurring organisms are known in the prior art (see for example Papina et al. "Separation of highly fluorescent proteins by SDS-PAGE in *Acroporidae* corals," *Comparative Biochemistry and Physiology Part B*, **2002**, 131, 767-774, cited by Applicant, and Matz et al. US 7,160,698). Therefore, unity of invention is lacking *a posteriori*. With respect to Groups I and VI, the fluorescent proteins in these groups have different spectral properties and therefore must have different chemical structures, which breaks unity of invention *a priori*. With respect to Groups II-V, Papina et al. teach a fluorescent protein derived from *Acropora* sp. with an excitation maximum of 505 nm and a fluorescence maximum at 517 nm (see Table 1). Matz et al. teach fluorescent proteins derived from *Acropora* sp. that share a high degree of homology with instantly claimed SEQ ID NO: 5. SEQ ID NOs: 56, 58, 63, 47, 55, 54, 53, 57, 62, 61, 48, 49 and 46 of Matz et al. are 90.5, 90.3, 88.7, 88.4, 88.1, 87, 86.8, 85.8, 85.5, 85.5, 85.5, 80, 79.5 and 79.2 % identical to SEQ ID NO: 5. Matz et al. also teach DNA and vectors that encode these fluorescent proteins derived from *Acropora* sp. Therefore, unity of invention for Groups II-V is lacking *a posteriori*.

4. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINA BRADLEY whose telephone number is (571)272-9044. The examiner can normally be reached on Monday-Thursday, 8:30 A.M. to 4:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on (571) 272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christina Marchetti Bradley/
Examiner, Art Unit 1654

cmb